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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/826,425	04/15/2004	Daniel J. Durda	1015.1126101	9856

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EXAMINER

BUSHEY, CHARLES S

ART UNIT	PAPER NUMBER
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1724

DATE MAILED: 11/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/826,425

Applicant(s)

DURDA, DANIEL J.

Examiner

Scott Bushey

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 September 2005.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 and 26-33 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-24 and 26-33 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 22 September 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-24, and 26-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Karliner taken together with WO 02/38510 A1.

Karliner (Figs. 2, 4, and 5; col. 4, lines 1-24, 64-67; col. 5, lines 1-10, 30-40, 64-67; col. 6, lines 1-27) substantially disclose applicant's invention as recited by instant claims 1-24, and 26-28, except for the adjustable, submergible vortex shield, the atomizer blades being curved, as recited by instant claim 13, the specific disclosure that the power source is operated at a speed between 700 and 1000 RPM, as recited by instant claims 17-19, and 22-24, and that the diameter of the first propeller is optimally sized to provide optimal flow at the desired operational RPM, and that the vortex shield may be curved in shape. It is noted that Karliner clearly discloses that the drive motor may typically range in power between 1 and 100 hp, or that it may be "much larger than 100 hp". Clearly, one having ordinary skill in the art would recognize the capability of such a drive means to operate the aerating propellers at almost any desired speed, including the rather unremarkable speed of between 700 and 1000 RPM, as recited by the instant claims. Also, it would have been an obvious change in shape of the known apparatus of Karliner to provide the atomizer blades having a curved shape rather than

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the more simply constructed straight shape. Furthermore, it would have been obvious for an artisan at the time of the invention, to optimize the diameter of the first propeller to perform the level of liquid agitation and aeration desired, as recited by instant claim 23.

WO 02/38510 A1 (Figs. 1 and 2; page 7, lines 4-11) disclose an aerator similar in construction to that of Karliner, but wherein there is additionally provided, a perforated vortex shield (31) that is positioned below the liquid surface and directly above the propeller, thereby protecting the propeller against damaging cavitation currents. While the reference text discloses that the vortex shield is rigidly suspended from the frame of the apparatus, it is noted that Figure 2 of the reference clearly illustrates that the connection of the vortex shield to the frame is by way of jack screws (unnumbered in the drawing), which are well known means within the art to adjustably connect an element to a floating frame (note the references cited on the attached PTO-892, both of which illustrate common jack screw use within the art). It should be further noted that the jack screws illustrated by Figure 2 of the reference clearly provide a considerable length of screw extending both above and below the nut portion that is attached to the frame of the apparatus, thus suggesting to one having ordinary skill in the art that the vortex shield supported thereby may be adjusted over a substantial distance from the position as illustrated in the Figure. Therefore, in view of that which is suggested by the illustrated jack screw attachment of the vortex plate to the frame, it would have been obvious for an artisan at the time of the invention, to provide Karliner with a submergible vortex shield and to make such shield adjustable, in view of WO 02/38510 A1, since

such would insure that the shield would always be submerged and that the shield would be close enough to the adjustable propeller so that the shield would provide its intended function, i.e., protecting the propellers from damaging cavitation currents.

3. Claims 29-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Karliner taken together with Schiller.

Karliner (Figs. 2, 4, and 5; col. 4, lines 1-24, 64-67; col. 5, lines 1-10, 30-40, 64-67; col. 6, lines 1-27) substantially disclose applicant's invention as recited by instant claims 29-33, except for the adjustable vortex shield, the specific disclosure that the power source is operated at a speed between 700 and 1000 RPM, and that the diameter of the first propeller is between 16 and 20 inches. It is noted that Karliner clearly discloses that the drive motor may typically range in power between 1 and 100 hp, or that it may be "much larger than 100 hp". Clearly, one having ordinary skill in the art would recognize the capability of such a drive means to operate the aerating propellers at almost any desired speed, including the rather unremarkable speed of between 700 and 1000 RPM, as recited by the instant claims. Furthermore, it would have been obvious for an artisan at the time of the invention, to optimize the diameter of the first propeller to perform the level of liquid agitation and aeration desired, including choosing the propeller diameter within the claimed range, as recited by instant claim 33.

Schiller (Fig. 1; col. 3, lines 4-32) teaches providing an adjustable vortex shield directly above an aeration impeller, so as to avoid cavitation thereby protecting the propeller from damage. It would have been obvious for an artisan at the time of the invention, to provide the apparatus and process of Karliner with a vortex shield,

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particularly an adjustable vortex shield, as taught by Schiller, since such provides protection to the propeller from injurious cavitation, as is well known within the art.

Response to Arguments

4. Applicant's arguments with respect to claims 1-24, and 26-33 have been considered but are moot in view of the new grounds of rejection.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Applicant should note Petrescu et al and Thompson et al, which are cited herein to illustrate the well known use of jack screw adjustment means.

6. Applicant's amendment necessitated the new grounds of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott Bushey whose telephone number is 571 272-1153. The examiner can normally be reached on M-Th 6:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on 571 272-1166. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Scott Bushey
Primary Examiner
Art Unit 1724



11-8-05

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